

PARTICIPATORY MONITORING OF WATER QUALITY IN WATER BODIES

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Various approaches have been employed to monitor water quality in water bodies. Participatory monitoring of these areas seeks to involve the community in the data collection process, which can be used by the competent authorities to implement measures aimed at recovering and maintaining water quality, as well as for environmental education strategies. Promoting actions aimed at raising awareness among the local population and monitoring river water quality represents one of the fundamental ways of preserving this crucial resource. Within the scope of this community involvement, participatory river monitoring stands out.

Our project is based on the principle “Youth educates Young”, seeking to bring young people closer to environmental issues related to river pollution. Through the cell phone application called “AQUA”, which combines detection and georeferencing, and miniaturized colorimetric kits for identifying nitrite, organic matter, orthophosphate, ammonia and iron, we aim to establish a participatory monitoring network in rivers and bodies of water close to educational institutions. This will be achieved through the use of the application and the engagement of students and teachers in the process.

A demonstration of the project was already made for high school students on 11/21/2022 at Colégio Estadual Cataratas do Iguaçu

located in the city of Foz do Iguaçu/PR, and between 05/17/2023 and 05/23/2023 it was carried out a Workshop: Use of low-cost tools for monitoring rivers, Boicy River also in the city of Foz do Iguaçu/PR.

The application stores all georeferenced data in the cloud, in a public database, where other researchers or interested entities can have access. It can be downloaded and installed directly through Google Play, increasing young people’s engagement.

The project has already developed an image capture box, which is a low-cost device that provides everyone with the opportunity to analyze certain substances in springs and rivers. Its handling is quite simple, involving just the addition of the substance or sample to the meniscus measured in the tube. Then, simply connect the LED light to the box and position the tube on the support inside it. After this procedure, it is possible to access the AQUA application on your smartphone and capture images.

We provide a web page with all standard operating procedures (SOPs), demonstration videos, and extensive documentation.

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